Chemistry *via* Carnival: An Activity Based Approach in Learning Chemistry
(Pembelajaran Kimia melalui Karnival: Pendekatan Pembelajaran Kimia Berasaskan Aktiviti)

SIONG FONG SIM*, LAU SENG AND ZAINAB NGAINI

ABSTRACT

This paper reports the experience of activity based learning conducted in Chemistry Carnival 2011 in Sarawak. The active learning oriented activities include hands-on experiments, quiz, poster and mini lectures were used to educate the school students some basics chemistry relating to daily life. Approximately 300 students attended the activities. Observations and questionnaires were used as the instruments to describe and measure the learning experience whether various activities have contributed to effective learning. Among these, hands-on experiments were found to be the most effective approach; more than 86% of the participants agree that they have learnt well from this peer mentoring and collaborative learning strategy. Posters, mini lectures and quiz however were relatively less favoured as they suffered some inherited shortcomings for example lecture is lacking in interactivity, poster and quiz similarly fall short in proactive involvement of participants. Activity based learning is an effective approach however it needs to be carefully constructed to achieve the learning outcomes.

Keywords: Chemistry, Carnival, Student-centred learning, Effective learning, Activity-based learning

ABSTRAK

Kajian ini melaporkan pembelajaran berasaskan aktiviti berdasarkan kepada pengalaman Karnival Kimia Malaysia 2011 di Sarawak. Kaedah pembelajaran aktif yang berasaskan aktiviti seperti kuiz, poster, ceramah dan eksperimen telah digunakan untuk mengajar pelajar sekolah tentang kimia asas kehidupan harian. Lebih kurang 300 orang pelajar telah mengambil bahagian dalam aktiviti yang dianjurkan termasuklah eksperimen, poster, ceramah dan kuiz. Pemerhatian dan soal selidik telah digunakan untuk menilai pengalaman pembelajaran. Antara aktiviti yang diadakan, eksperimen merupakan kaedah yang dianggap paling efektif. Sebanyak 86% responden menyatakan bahawa pembelajaran telah berlaku dengan lebih berkesan melalui eksperimen di mana aktiviti ini melibatkan pemantauan dan pembelajaran bersama. Poster, ceramah serta kuiz adalah kurang efektif kerana kaedah-kaedah ini masing-masing mewarisi kelemahan, sebagai contoh ceramah melibatkan interaksi yang terhad bersama pendengar, Poster serta kuiz turut mengalami kesukaran ini. Pembelajaran berasaskan aktiviti didapati berkesan, tetapi ia perlu dirancang secara rapi untuk mencapai hasil pembelajaran yang diharapkan.

Kata kunci: Kimia, Karnival, Pembelajaran berpusat pelajar, Pembelajaran berkesan, Pembelajaran berasaskan aktiviti

INTRODUCTION

Students often perceived chemistry as one of the most difficult subjects. In a study, almost 100% of the respondents agree that the subject is heavily concept based and requires significant amount of time and commitment (Jedge (2007). For this reason, majority of students who take up chemistry are less motivated; they attend the course simply because it is a prerequisite. To improve the learning experience, numerous researches have been carried out to understand the obstacles in order to formulate effective teaching approaches (Jedge 2007; Ali 2012). In recent years, the student-centred learning approach has received considerable attention where the active learning strategies have been seen to work more effectively than the conventional approach resulting in increased retention of knowledge and higher scores in assessment (Dougherty, et al. (1995)]. In